STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

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EUGENE A. CONTI, JR
SECRETARY

November 23, 2011

MEMORANDUM

TO: Mr. Calvin W. Leggett, P.E.
Manager, Program Development Branch

FROM: Mr. Henry Esealuka *HE*
Feasibility Studies Engineer

SUBJECT: **R-2578** – Proposed widening of US 158 from US 13 to NC 32 - Gates County.

As requested, we have completed feasibility study R-2578 for the widening of US 158 from US 13 to NC 32 in Gates County. This Project proposes to upgrade the existing two-lane roadway to a four-lane divided facility as mentioned above, a distance of approximately 15 miles.

Our evaluation of this project was based on a four-lane shoulder section, 102 feet from edge of pavement to edge of pavement with 12-foot travel lanes, a 46-foot depressed grass median, and 8-foot shoulder; of which 4 feet is paved on 200 feet of right of way. It is anticipated that 117 residences and 24 businesses would need to be relocated due to this project.

The estimated total cost of this project is as follows:

Construction	$65,000,000
Right of Way	$35,500,000
Utility Relocation	$ 9,900,000
Total	$110,400,000

The current year Average Daily Traffic (ADT) along US 158 ranges from 2926 vehicles per day (vpd) at the west end to 4952 vpd at the east end. For the design year 2035, the traffic volume along US 158 is estimated to range between 3900 vpd at the West end to 7700 vpd at the east end. Truck traffic is estimated to make up approximately 17 percent of the daily traffic.

The existing segment of US 158 is currently operating at a level of service (LOS) "C". This portion of US 158 will operate at a level of service "D" If no improvements are made prior to the 2035 design year. However, with the proposed improvements, this segment of US 158 is projected to operate at a LOS "C".

Between October 1, 2008 and September 30, 2011, there were 89 total crashes reported within the project limits including one (1) fatality. The crash rate on US 158 within the project limits is 201.40 crashes per 100 million vehicle miles (crashes/100mvm) traveled. This rate is higher than the statewide rate of 151.02 crashes/100MVM for two-lane undivided rural United States routes.

There were 66 property damage, 23 injury crashes and 1 fatal crash The most prevalent accident types along this corridor are as follows: Approximately 44 percent of accidents were with animal, 19 percent were Fixed Object and 6 percent were Rear End accidents. Individually, all other accident types are approximately thirty one (31) percent or less of the total accidents.

An exhaustive environmental screening was not conducted for this study. However, the following information summarizes conclusions about the project study area based on existing data.

Threatened and Endangered Species: A significant aquatic endangered species habitat site was identified with the project corridor.

Property Impact Concerns: A detailed investigation was not conducted for this feasibility study, however, it is anticipated that there will be possible impacts to Central middle School and Gates County Senior High. Lands managed for conservation and open space and portion of State owned property will also be impacted as a result of this project.

Historic Concerns: It should be noted that Tom Lassiter House, Harrell-Roundtree House and Cross-Nixon House are landmark site(s) on the Historic Study List Properties; all located within the project limits. However, direct impact to these historic properties are anticipated as a result of this project.

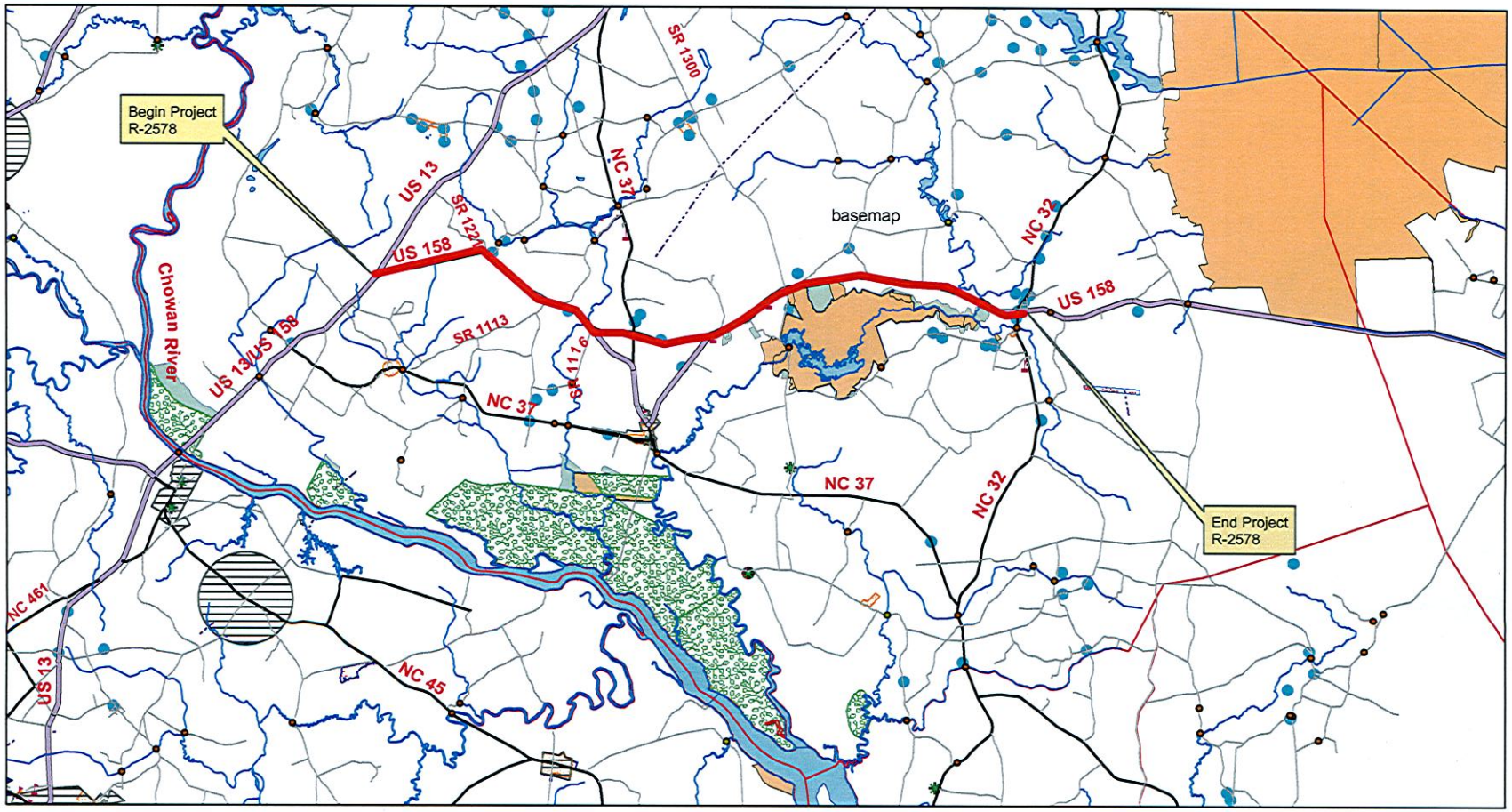
As you are aware, this work is preliminary and not the product of comprehensive environmental or design evaluations. If you should have further questions or additional information is needed, please do not hesitate to contact me at 919-707-4661, or via e-mail at hesealuka@ncdot.gov.

ATT: Project Map

cc: AL-Ghandour, Majed, P.E., Assistant Branch Manager
Ray McIntyre, P.E., TIP Eastern Region
Jerry Jennings, P.E., Division 1 Engineer

R-2578

Figure 1



0 0.5 1 2 3 4

Miles

Project limits